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REMARKS

Applicant has read and considered the Office Action dated May 8, 2006 and the references cited therein. Claims 1, 2, 4, 5, 7, 9, 10, 12, 14, 16, 19, and 21 have been amended. Claims 13 and 20 have been cancelled without prejudice or disclaimer. Claims 1-12, 14-19, and 21 are currently pending.

Claims 1-21 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. As stated in the Office Action, the use of certain commas rendered the claims unclear. The claims have been rewritten so that the structure being referenced is more clearly recited. In addition, the Action stated that the values of M and N are undefined. The claims have been amended, and M and N are both defined.

The use of "replica's" is grammatically incorrect. The claims have been amended to delete all references to "replica's" throughout.

The "predefined function" is not adequately disclosed in the claims. The phrase "predefined function" has been deleted and rewritten so that it is adequately disclosed.

Claim 7 was indefinite due to the colon. The same problem also existed with respect to claims 5, 12, 14, 19, and 21. The unnecessary colons have been deleted from those claims.

Claim 9 was stated to be indefinite since it appears to be contradictory to the claims from which it depends. The same problem also exists with respect to claim 16. Claims 9 and 16 have been amended to further recite that the two replicas are used in the estimation of multipath error by setting α_{-1} and α_{+1}

equal to zero. Applicant asserts that the claims are more limiting.

Claim 10 was indefinite since it is not clear if it is complete or not, and is stated to be a listing of parts without defined relationships. Claim 10 has been amended, and recites a relationship between the various structures.

Claims 12-15 and 19-21 were indefinite since the relation and recitation of both the apparatus and the method of using that apparatus in the same claim renders the claim indefinite. Claim 12 has been amended to eliminate the recitation of the method. Claim 19 has been amended and recites only a method, and it is believed that claims 12 and 19 are not indefinite, and that the claims dependent therefrom also read clearly.

Claims 13 and 20 are indefinite since each fails to further limit the independent claim from which it depends. Claims 13 and 20 have now been cancelled without prejudice or disclaimer.

Finally, claim 19 uses a colon which is displaced in the subparagraphs related to the method. The colon has now been deleted.

Applicant asserts that the rejections under 35 U.S.C. § 112 have been overcome.

Figures 1, 2, 3a, and 3b should be designated by a legend such as "Prior Art." Replacement sheets are included herewith, which designate these figures as prior art.

The drawings were objected to because the boxed elements failed to represent what they are or what they perform. New drawings are included that provide the indication of the

structural elements within the box for Figures 4 and 7. Applicant asserts that the objections to the drawings have been overcome.

Claims 1, 2, 10, 17, and 18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kumar et al. In addition, claims 1, 2, 10, 17, and 18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Enge et al. Applicant asserts that Kumar teaches linear combiners 20 and 35 that cannot be compared to a multipath estimator of the present invention. The output of Kumar et al. from the linear combiners is input to an impulse response estimator, where the estimation of multipath is performed through a curve-fitting technique. This is in contrast to the present invention which recites only a linear combiner to estimate a multipath. Applicant asserts that no curve-fit or other observation is performed during the range measurement. The linear combination applied in the multipath estimator is predefined so that once the correlation values are obtained, the multipath is calculated by the simpler mathematical formulas, and not through a complex curve-fit series of calculations. Applicant asserts that the present invention provides a simpler and improved method is obtained.

Moreover, it is not necessary to estimate the measurement for the inputs D_i and D_q ... as recited in step 210 in Kumar. Applicant asserts that Kumar et al. does not teach or suggest every step and structural element of claims 1, 2, 10, 17, and 18. Therefore, Applicant asserts that a *prima facie* case of anticipation has not been established. Moreover, Applicant asserts that Kumar et al. fails to teach or suggest all of the recited claim limitations. Applicant asserts that claims 1, 2, 10, and 17-18 patentably distinguish over Kumar et al.

The Enge et al. reference uses a procedure for an optimization technique at each ranging step. At column 5, lines 8-15, reference is made to estimation by least squares through a correlation function of an expected signal and an arriving composite signal that includes the direct signal and one or more multipath signals. As with Kumar, Enge et al. uses an optimization technique during the ranging measurement. Applicant asserts that Enge does not anticipate each and every recited element or step of the present invention. Applicant asserts that claims 1, 2, 10, 17, and 18 are patentably distinguishable over Enge et al.

Applicant asserts that there are fundamental differences between the invention and the prior art, as calculating the multipath error on the basis of predefined linear combination or correlation values has been calculated between the incoming signal and a number of replicas. None of the prior art teaches or suggests using a predefined linear combination. The prior art does not and cannot use such linear equations. Moreover, the prior art does not teach or suggest the use of coefficients that have been defined beforehand and remain fixed for every range measurement. The fixed values of α_i are neither shown nor suggested by the prior art techniques. The prior art techniques are least squares or other optimization algorithms in real time, and require additional computational resources in the receiver. In contrast, the present invention uses straightforward, simple mathematical steps such as division, multiplication with predefined coefficients, and subtracting and/or addition to arrive at an estimate of the multipath error. Applicant asserts that the prior art neither teaches nor suggests such an improved and simple method.

Applicant further asserts that surprising results have been achieved as the multipath errors of a real signal can be approached by estimating the error on the basis of predefined linear combinations with coefficients that are obtained on the basis of simulated signals. The prior art teaches much more complicated techniques that teach away from the present invention. Applicant asserts that claims 1, 2, 10, 17, and 18 are therefore patentably distinguishable over the prior art.

Moreover, Applicant notes that claims 3-9, 11-12, 14-16, 19, and 21 were rejected only for indefiniteness reasons. Applicant asserts that the indefiniteness rejections have been overcome and that these claims patentably distinguish over the prior art and are in condition for allowance.

Applicant asserts that the application is in condition for allowance. A speedy and favorable action on the merits in the form of a notice of allowance is hereby solicited. If the Examiner feels that a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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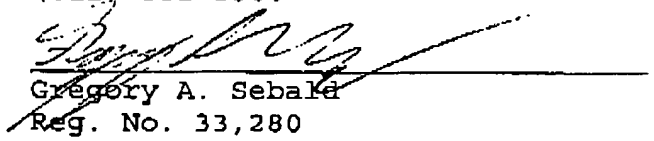

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